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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,936	12/03/2001	Jinsaku Masuyama	016295.0733 (DC-03225)	7808

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09/20/2004

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EXAMINER

CHEN, TSE W

ART UNIT

PAPER NUMBER

2116

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/005,936	MASUYAMA ET AL.	
	Examiner	Art Unit	
	Tse Chen	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12032001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on December 3, 2001 was filed before the mailing date of the first Office Action. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

3. Claims 10 and 24 are objected to because of the following informalities:

- As per claim 10, "claim 1" should be "Claim 1" to be consistent with the other claims.
- As per claim 24, "system of 23" should be "system of Claim 23".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9, 11, 14-16, 18-23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, U.S. Publication 2002/0198608, in view of Tsurumi, U.S. Patent 5915122, and Bottom, U.S. Publication 2002/0194412.

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6. In re claim 1, Smith discloses a computer system [fig.2; multiple processor combination 100] comprising:

- At least one server module [server blade 102-0; fig.2].
- A midplane [pci bus 110] associated with the server modules, the midplane operable to receive the server module and to provide a unique address for each server module based on the location of the server modules on the midplane [0025-0026].
- At least one address module [system server blade 102-0] associated with the server modules, the address module operable to obtain the unique address from the midplane for each server module [0029].

7. Smith did not disclose explicitly a power supply associated with the midplane and did not discuss the sequential supply of power to the server modules.

8. Bottom discloses a computer system [modular server system 100; fig.1] comprising:

- At least one power supply [130] associated with the midplane, the power supply operable to supply power to the server modules [server blades 110] [0021].

9. Bottom did not discuss the sequential supply of power to the server modules.

10. Tsurumi discloses a computer system [col.1, ll.10-30] comprising:

- At least one module [cross control circuit X] operable to calculate a start-up time [timer value] for each module [battery, power controller] based on the unique address for each module [col.38, l.56 – col.39, l.6].
- At least one module [cross control circuit X] operable to sequence power to the server modules based on the start-up times for the server modules [col.38, l.56 – col.39, l.17; battery test expends power].

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11. It would have been obvious to one of ordinary skill in the art, having the teachings of Smith, Bottom and Tsurumi before him at the time the invention was made, to modify the system taught by Smith to include the power supply taught by Bottom, in order to provide a more efficient use of the resources and minimize space [Bottom: 0021]. Furthermore, one of ordinary skill in the art would have modify the system taught by Smith and Bottom to include the sequential power supply teachings of Tsurumi, in order to provide a system comprising at least one address module associated with the server modules, the address module operable to obtain the unique address from the midplane for each server module and to calculate a start-up time for each server module based on the unique address for each server module and at least one power supply associated with the midplane, the power supply operable to sequence power to the server modules based on the start-up times for the server modules. One of ordinary skill in the art would have been motivated to make such a combination as it provides a more efficient use of the resources and minimize space [Bottom: 0021] [Tsurumi: col.38, ll.4-15; col.39, ll.7-17].

12. As to claim 2, Smith discloses the system wherein the server module comprises a blade server [102] [fig.1].

13. As to claim 3, it would have been obvious to one with ordinary skill in the art to replace the blade server of claim 1 with a brick server because Applicant has not disclosed an advantage, a particular purpose, or solution to a stated problem for each of the respective server module. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either server modules because the Applicant's invention is intended to sequentially power up the server modules in an autonomous fashion.

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14. As to claim 4, Smith discloses the system wherein the midplane comprises a circuit board including one or more connectors [compact pci connector 112] coupled to the midplane and one or more resistors [some kind of resistors is needed or a short may occur] coupled to the midplane [0025]. Regarding the resistors, the Examiner hereby takes Official Notice that it is well known in the art to use pull-up resistors to signify a certain bit of information.

15. As to claim 5, Bottom discloses the system wherein the connectors [compact pci form factor interface 660] are operable to provide an interface between the server modules [110] and the midplane [170] [0033].

16. As to claim 6, Smith discloses the system wherein each connector [compact pci connector 112] is operable to interface with one server module [fig.1; 0025].

17. As to claim 7, Smith discloses the system wherein the midplane provides a unique address to each server module through resistor strapping the one or more resistors [0025].

18. As to claim 8, Bottom discloses the system wherein the midplane is further operable to provide an interface [some kind of interface in broadest interpretation is needed to provide power and switching between redundant power supplies] between the server modules and the power supply [0021].

19. As to claim 9, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 1 [sequencing power is supplying power].

20. As to claim 11, Tsurumi discloses the system wherein each address module [cross control circuit X] includes a timer, the address module further operable to set the timer with the start-up time and the timer operable to count to [down from] the start-up time [col.38, 1.56 – col.39, 1.6]. Regarding the timer that is operable to count down from the start-up time, the Examiner hereby

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takes Official Notice that it is well known in the art to configure a timer to either count down or count to a known time for timing a duration. It is expected that the Applicant's claimed system would be robust enough to work under either scenario.

21. In re claims 14-16 and 18-22 Smith, Bottom, and Tsurumi teach the system; therefore, Smith, Bottom, and Tsurumi teach the method of operating the system.

22. As to claim 14, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 1.

23. As to claim 15, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 2.

24. As to claim 16, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 3.

25. As to claim 18, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed in reference to claims 11 and 13.

26. As to claim 19, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 4.

27. As to claim 20, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 7.

28. As to claim 21, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 9 [power supplied sequentially to conserve power].

29. As to claim 22, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 9.

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30. In re claim 23, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claims 1 and 4-6. Furthermore, Bottom discloses the computer system comprising one of more chassis [mounting flanges 210] operable to house the server modules, the midplane, and the power supply [0022].

31. As to claim 25, the Examiner hereby takes Official Notice that it is well known in the art for one or more cabinets to house one or more of the chassis.

32. Claims 10, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Bottom and Tsurumi as applied to claims 1 and 14 above, and further in view of Butka et al., U.S. Patent 6735704, hereinafter Butka.

33. In re claims 10 and 24, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claims 1 and 14. Smith, Bottom, and Tsurumi did not discuss a management controller to provide redundant operation.

34. Butka discloses a system [10; fig.1] comprising a management controller [master controller 20] associated with the midplane [bus 22], the management controller operable to provide sequence redundancy by sequencing power to the server modules if the midplane experiences a failure [col.4, ll.8-51; col.5, l.34 – col.6, l.62].

35. It would have been obvious to one of ordinary skill in the art, having the teachings of Butka, Smith, Bottom, and Tsurumi before him at the time the invention was made, to modify the system taught by Smith, Bottom, and Tsurumi to include the redundancy teachings of Butka, in order to permit the system to continue normal operations in the event of a failure [Butka: col.1, ll.20-42]. One of ordinary skill in the art would have been motivated to make such a

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combination as it provides a way to permit the system to continue normal operations in the event of a failure.

36. In re claim 17, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 14. Smith, Bottom, and Tsurumi did not disclose explicitly a multiplication factor.

37. Butka discloses a method wherein calculating the start-up time [delay seconds] comprises:

- Obtaining a multiplication factor [2] for the server modules [power nodes] and calculating the start-up time using the multiplication factor [col.4, ll.8-39].

38. It would have been obvious to one of ordinary skill in the art, having the teachings of Butka, Smith, Bottom, and Tsurumi before him at the time the invention was made, to modify the system taught by Smith, Bottom, and Tsurumi to include the multiplication factor teachings of Butka, in order to avoid simultaneous power supplies [Butka: col.1, ll.8-39]. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to avoid simultaneous power supplies.

39. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Bottom and Tsurumi as applied to claim 1 above, and further in view of Duley, U.S. Patent 6766222.

40. In re claim 12, Smith, Bottom, and Tsurumi disclose each and every limitation of the claim as discussed above in reference to claim 1. Smith, Bottom, and Tsurumi did not disclose explicitly switches associated with the server modules.

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41. Duley discloses a system [power sequencing system] comprising one or more switches associated with the server modules [slave] and the address modules [master], the switches operable to accept a command from the address modules to switch between an on position and an off position [col.6, ll.18-39; col.6, l.50 – col.7, l.49].

42. It would have been obvious to one of ordinary skill in the art, having the teachings of Duley, Smith, Bottom, and Tsurumi before him at the time the invention was made, to modify the system taught by Smith, Bottom, and Tsurumi to include the switches of Duley, in order to provide cost savings in power supplies [Duley: col.7, l.50 – col.8, l.4]. One of ordinary skill in the art would have been motivated to make such a combination as it provides a way to provide cost savings in power supplies.

43. As to claim 13, Tsurumi discloses the system where at the expiration of the start-up time the address module [cross control circuit X] switches the switch to the on position allowing an associated server module [battery] to receive power from the power supply [col.38, l.56 – col.39, l.17; switch on for battery test which consumes power].

Conclusion

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additionally cited U.S. patent documents describe various systems and methods for sequentially powering up server modules with the features well known to one with ordinary skill in the art.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (571) 272-3672. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tse Chen
September 14, 2004



REHANA PERVEEN
PRIMARY EXAMINER